#### Message

From: Mark Healy [markhealy@coquilletribe.org]

**Sent**: 11/20/2018 12:47:29 AM

To: Fullagar, Jill [/o=ExchangeLabs/ou=Exchange Administrative Group

(FYDIBOHF23SPDLT)/cn=Recipients/cn=7ba061353c314b40a14a8be1ee382ae3-Gable, Jill]

**Subject**: RE: Literature on Ocean Acidification in Oregon

Attachments: 1-s2.0-S0044848618311797-mainEelgrassandBivalve.pdf; OA-SAV-emerging-findings-report-1.30.18Eelgrass.pdf

Jill,

Thank you for the email! I like the way you handled it. I did want those comments to get in. Since that email there is new literature, I attached a few I was interested in. In particular I am interested in whether there are ways to mitigate the OA with kelp or eelgrass.

As an update to the last email, we were skunked again on returning salmon. Another no show.

By any chance have you read the Oregon OAH council's first report. It came out in October <a href="https://www.oregonocean.info/index.php/ocean-documents/oah-hypox/oah-council-1st-biennial-report">https://www.oregonocean.info/index.php/ocean-documents/oah-hypox/oah-council-1st-biennial-report</a>

Mark

From: Fullagar, Jill <Fullagar.Jill@epa.gov>
Sent: Monday, November 19, 2018 4:33 PM
To: Mark Healy <markhealy@coquilletribe.org>

Subject: RE: Literature on Ocean Acidification in Oregon

Hi Mark,

Hope you are doing well. I am finalizing our response to comments on the Oregon 2012 list and was reviewing what you sent me. In the past we have not included comments we received during the Tribal coordination/consultation process in our response to comments, assuming that the Tribe would prefer to keep that between us as part of our government to government relationship, and not made public. I wanted to let you know that and let you know that what you sent me was considered and included in our briefings to management about comments we received, and the articles you included have been added to our list of OA literature to be included in the assessment, and everything is in our record. I did not want you to think that because this wasn't included in the response to comments that it had been overlooked. Having said that, if you would prefer that I do include your comments and respond publicly, I would be happy to do so. Please just let me know. I am basing this off past practices and feedback I've received before, but am happy to do otherwise if that is the Tribe's preference. Thank you so much for taking the time to share your comments and literature suggestions with us.

Best,

iill

Jill Fullagar, Impaired Waters Coordinator Watershed Unit, Office of Water and Watersheds US EPA, Region 10 1200 Sixth Avenue, Suite 155 (OWW-192) Seattle, WA 98101-3140 (206) 553-2582, (206) 553-1280 (fax)

# fullagar.jill@epa.gov

From: Mark Healy <markhealy@coquilletribe.org>

Sent: Monday, August 28, 2017 9:42 AM To: Fullagar, Jill < Fullagar, Jill@epa.gov>

Subject: Literature on Ocean Acidification in Oregon

Jill,

I know this is very late. The public comment request for Ocean Acidification did not cross my desk until I started to get info on the OR 2012 Integrated report from EPA. I am sending a few articles and links from Dr. Shallin Busch that could be added to the summary of OA impacts.

My opinion as a staff person, not representing the Tribe's position, is that the OA issue needs to be addressed in the Oregon water quality standards. However, if Oregon cannot do anything about OA, which is likely, would calling the on-shore ocean areas impaired for OA be appropriate, knowing there is nothing that can be done about it?

I think the Oregon estuaries could possibly be modified to improve OA, but then the complex dynamics of the estuary would make it very difficult to address with a water quality standard.

We have acclimated up to 100,000 coho smolts for ten years now and for the last two years we have not seen a single adult

return to our reservoir. Something about the current ocean conditions is causing them to stray, die, or get eaten.

These are 2017 articles that should be added to the OA literature list.

### Coho can get lost and can't smell predators

http://kuow.org/post/salmon-are-losing-their-sense-smell-thanks-carbon-emissions

http://www.fondriest.com/news/study-finds-salmon-sense-of-smell-is-impaired-by-freshwater-acidification.htm

# Impact to the Dungeness fishery

https://www.nwfsc.noaa.gov/news/features/ocean\_acidification\_west\_coast\_dungeness\_crab\_fishery/

## Fish getting smaller

https://www.scientificamerican.com/article/warming-waters-could-mean-smaller-fish/

Mark

From: Colin Beck

**Sent:** Wednesday, August 16, 2017 2:41 PM **To:** Mark Healy <a href="markhealy@coquilletribe.org">markhealy@coquilletribe.org</a>

Subject: FW: Consultation Invitation for OR 2012 Integrated Report

Can you look into this and let me know if they're planning on adding any waterways that are in our service area?

Colin

From: Fullagar, Jill [mailto:Fullagar\_Jill@epa.gov]
Sent: Wednesday, August 16, 2017 2:13 PM

To: Colin Beck < ColinBeck@coquilletribe.org>

Subject: Consultation Invitation for OR 2012 Integrated Report

The attached consultation invitation was sent to your Tribal Leader last week. Please let me know if you have any questions. Thank you.

Best, Jill Fullagar

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